Volume 5 Number 6 - $ 3.00

NCMC Bulletin

The Official Newsletter of
The National Capital Macintosh Club

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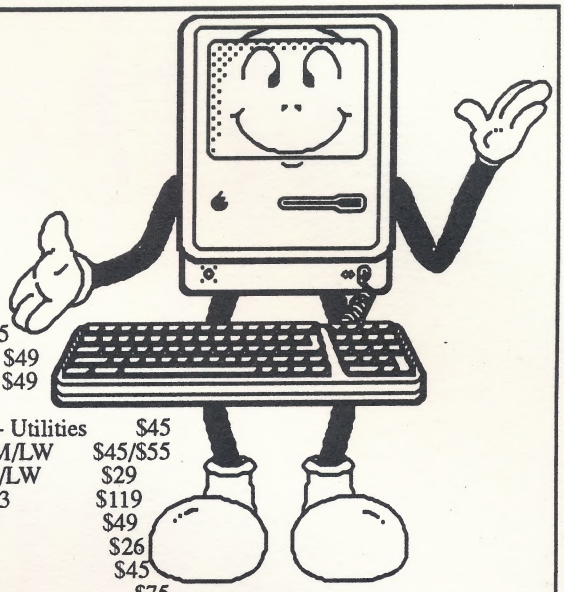

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About the NCMC Bulletin

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General Meetings of the NCMC are normally held on the 4th Monday of each month at Sir Robert Borden High School, 131 Greenbank Road, Nepean.

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Submissions to the *NCMC Bulletin* are welcome. Although direct electronic transfer to the NCMC-TCS is preferred, disk or printed copy is also accepted. The next issue of the *NCMC Bulletin* will be published Jan. 1990.

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The *NCMC Bulletin* is created with the support of GCC Technologies through the donation of an FX/80 hard drive.

1989 NCMC Executive

LeRoy Lees	President	592-1929
Clifford Crabe	Vice-President	592-0496
Bill Hooper	Treasurer	744-1201
Sue Roseman	Secretary	824-4888
Capt. John Moore	Program. Director	998-3322
Branth Buckwell	P.D. Librarian	722-9584
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	SIG Coordinator	1-253-0900
Scotty Adams	Info. Librarian & Advert. Co-ord.	592-3492
Bam Liem	Membership & Past President	225-5209

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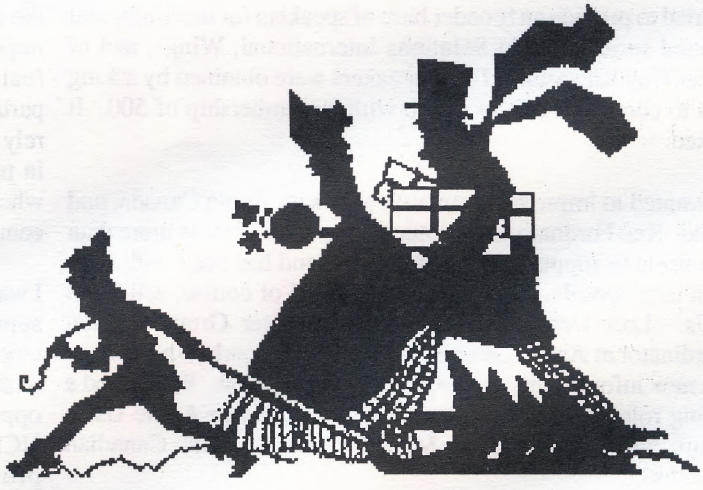


From PD Disk Paintings 03.

From the Prez

by LeRoy Lees

With the end of the 1989 year at hand, I look back at what was undertaken by your Executive, what was accomplished, and what should be considered for 1990 goals.

In 1989, my goals as President were driven by the desire for a professional organization that acted in a professional manner. I wanted to build on the excellent groundwork set up by both Bob Kingham and Bam Liem, and use input from various members of the NCMC. I wanted us to have better organized meetings, more professional presentations, and better methods of distributing information on the Macintosh. This information relates to the many Macintosh software applications, expanding peripherals, and the Macintosh ability to create solutions to so many problems in so many different fields of expertise, while still being fun to use on a daily basis.

In 1989, we launched the MacBeach Party, a touch of California in the frozen north, without the earthquakes. It gave everyone a chance to see other members in a more social setting, plus an opportunity to win a significant amount of software. It was a success to anyone that attended, and promises to be an annual event.

We tried to provide an broader base of speakers for meetings, and attracted speakers from Solutions International, Wingz, and of course, Guy Kawasaki. These speakers were obtained by asking them to come and talk to a club with a membership of 500. It worked.

We wanted to improve our relationship with Apple Canada, and we did. Ken Fordham of the Ottawa Apple Office was more than responsive to support for our activities, and has been willing to listen to proposals which make sense, and of course, sell more CPUs. Lois Densmore was appointed User Group Liaison Coordinator at Apple Canada, and has been superb in helping us with new information, mailings, and coordination. We played a leading role in the establishment of the Canadian Apple Users Group, with its forum on MacNET dealing with Canadian concerns.

We have tried to develop more contact with software suppliers, and will continue to use our Club as a method by which our members can obtain more information on the current software capabilities.

Last, but not least, I have felt that we need dealer support at the NCMC, and that the dealer should be a integrated into the overall fabric of the club. However, this is a subtle area in a competitive market, and persuading dealers to take their company hats off when they come into a meeting requires a certain amount of professionalism which doesn't come easy. Hopefully, this has improved, and will continue to improve in 1990, because the NCMC would be significantly less than it is without the support of the dealer members, including their offering of facilities to hold our Special Interest Group meetings (SIGs). I personally thank them for this assistance.

Finally, in 1989, the overall fabric of the NCMC has changed significantly. In the early Macintosh days, there was lots of room for huge egos, as everyone hustled to know everything there was to know about the Mac. This can be very distressing to anyone new to Macintosh technology, and something I found to be rather objectionable. Now, however, the egos have softened as the technology has grown. It is now impossible for any one person to be fully conversant with all the features and attributes of every software program and, particularly, how to apply them in a productive manner. We must rely on communications with others, in person, electronically, or in print, to develop our understanding and knowledge. That's where the NCMC can shine, by providing that forum for communications.

I want to thank those of you who provided support during the past year. I really enjoyed the term as President, and only wish I had more time to develop the many opportunities which are available to the NCMC. I hope the development of professional approaches to NCMC activities continues. I wish Cliff Crabe and your new Executive much success in 1990.

Twelve MacDays of Christmas

Adapted by Clifford Crabe

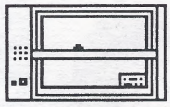
Last year year this version of the popular Christmas song was unveiled to the NCMC Membership. Since then, there has been a great deal of positive interest in this little ditty. So, by popular demand here it is again. Perhaps we will get together some time and sing it.

On the twelfth MacDay of Christmas my true love gave to me,

twelve Mega Screens glowing,

eleven Falcons flying,

ten hyperstacks a stacking,


nine plotters plotting,

eight LaserWriters writing,

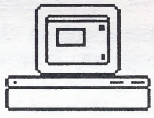
seven disks of clipart,

six new fonts,

five megs of RAM

four blank disks

three Modems


two Mac IIs, and

a CD ROM disk drive.

About This Issue

The cover of this issue is an original piece of work using the familiar logo of your favourite User Group and mine. The Program that allowed me to create it was called "StrataVISION 3D". It allowed for the importation of an EPS file and the program took just under 24 hours to render. The significance of this program can best be appreciated on a Mac II with 8 bit colour or better. Perhaps we will have an article on this very special program in a future issue of the *"Bulletin."*

This issue was assembled with a great deal of help from some people I would like to acknowledge at this time. Thanks is extended to William Apostal and Ann Cauley for donating evenings and time on their weekends to help me manage a very tight time schedule. Scotty Adams lended her critical eye to quality check the proof copy.Their help was instrumental in getting the *Bulletin* ready in time.

We are looking for some people who are **experienced** *Pagemaker* layout designers to prepare future issues of the *Bulletin.* Contact me if you can help out.

Cliff Crabe — ed

Tidbits

Since the last bulletin came out some interesting things have been happening in the world of commercial online information services.

CAUG NOW A FORUM IN MACNET

As you may have read in the last bulletin Canadian Apple User Groups are getting organized. This means that we, as User Groups, can now share information and resources in a much more organized manner. To support of this, there is a new forum on MacNET. The path to this forum is:

```
Forums
  Business & Professional
    Associations/User Groups
      CANet
```

Ben Lawson is the CANet Forum Manager. You can reach him with the CONNECT ID: LAWSON on MacNET. There is a great deal of information and help availabl.e.

Check it out.

AMERICA ONLINE

In the October issue of MacUser was an obscure ad asking if the reader had a modem. Upon closer examination this ad really had something to say.

Apparently there is a new kid on the 'online information' block and the name being used is "America OnLine!" It professes the following:

- A technically sophisticated, yet easy-to-use, Macintosh interface.
- Fast, intuitive navigation through the use of graphic icons and pull-down menus.
- Software libraries full of Macintosh programs, and a full range of services designed especially for Macintosh users.

And one more ability,

- Compatibility with the Apple // family.

The National Capital Macintosh Club

1989 Executive

Clifford Crabe

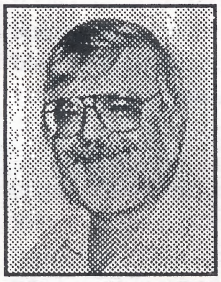
The NCMC Executive

Each year the membership of the National Capital Macintosh Club invite seven people of its own to oversee the operation of the club for the next year. We are now fast approaching that time for you, the NCMC membership, to perform the responsibility of electing our new executive. There are positions every year for new people from the general membership. Perhaps one of these positions may be filled by you. What kind of people serve on the Executive of the NCMC? The following article will show you that a position on the NCMC Excecutive is available to anyone who has disposable time to dedicate and would really like to do something to help his/her fellow Mac user and promote the Macintosh and its peripherals.

From left to right Phil Smy - NCMC TCS SysOp, Biti Beaubien - Apple Liaison , LeRoy Lees - President, Cliff Crabe - Vice President, John Moore - Program Director, Sue Roseman - Secretary, Bill Hooper - Treasurer and Abdallah Abi Aad (for Branth Buckwell) - Public Domain Software Librarian.
Missing: Branth Buckwell, Bam Liem - Past President, Membership Coordinator and Mail Box Coordinator, Scotty Adams - Information Librarian and Advertising Coordinator and Joe Cabrera - Information Line Coordinator

Now is the time for you to get to know the elected members for 1988-89. We will start with the President LeRoy Lees.

President — LeRoy Lees



LeRoy was born and educated in Alberta, and graduated from the University of Alberta in 1961 with a B.Sc. in Electronic Engineering. He worked for General Electric Canada in Toronto for the next 15 years, in the mobile radio communications division, as a salesman, in regional and national marketing and in radio system design. This business involved designing and selling radio communications systems for police, fire, ambulance, business and industry, a field with some work elements similar to incorporating computers in business. Leaving GE, he became a partner in two new business ventures in Ottawa, including Time Communications Ltd.

In 1984 he began his own Consulting Engineering firm, C. L. Lees & Associates Ltd. While starting with an Apple II/e, the "Fat Mac" Macintosh soon became the computer of choice. At present he uses the latest in Mac technology to operate a one-man company to its greatest efficiency, including a MacIIx, Mac SE with

There are seven elected members of the Executive; President, Vice-President, Treasurer, Secretary, Program Director, Public Domain Software Librarian and the NCMC TCS SysOp. There are also appointed officers, including; the Information Librarian, Membership Coordinator, Mail Box Coordinator, Information Line Coordinator, Apple Liaison and two Bulletin Coordinators. The elected members are decided by you, the membership each year. The appointed officiers are selected by the elected members to assist them.

AOX 16 MHz accelerator, Apple scanner, portrait display, removeable and fixed hard disks, CD ROM player, PC drive, AppleFAX modem, and of course a Laserwriter Plus. MacNET and Envoy 100 provide the electronic methods of communicating with engineering associates in Toronto and throughout North America. A member of the NCMC since 1985, he views the "Club" as an exceptional organization which is just barely scratching the surface of providing information to new and advanced users of the Macintosh. As President in 1989, he is currently looking forward to being Past President, and spending more time learning the new application software which is continually being introduced and upgraded.

Vice President — Clifford Crabe

The first contact for Cliff with the Macintosh came in 1984. He was back in school after serving more than ten years in the Canadian Armed Forces. He and his wife, Geneviève, (noted HyperCard enthusiast) bought their first Mac in the summer of that year.

While going to Algonquin College, he also worked as a Commissionaire and was allowed to take his Mac to work. So he was able to spend a lot of time working on it. In an early issue of *Macazine* he saw a list Macintosh Clubs. Although information listed was full errors there was enough information for him to reach the home of Ted and Sue Roseman (long standing members and a couple of our greatest supporters). He joined the the National Capital Macintosh Club in May 1986. Initially he joined so that he could get more public domain software. Fonts were an early favourite. He collected and organized them. Early in 1987 he approached PD Librarian Dan Greenberg with a plan to help the PD Library to reorganized their fonts and remove redundancy. From that time on he has been a participating member of the NCMC. He went on to fill the vacancy left by Dan Greenberg in the position of PD Librarian. Last year he became your Vice–President. He has been responsible for many recent *Bulletin* covers and for overseeing their production.

His professional career has undergone great metamorphosis. From a start as an Infantryman to Intelligence Analyst to Cartographer. He also has his own company called Crabe & Company which provides consulting, electronic publishing, animation and other services. Presently he is working for Phœbus Secure Technologies as their Coordinator, Training and Engineering Services.

The Macintosh has made a profound positive impact on his personal and professional life. The NCMC gave him experience he could not have gained anywhere else. It also allowed him to meet and work with some of the most knowledgeable and professional people anywhere.

Bill Hooper- Treasurer

"Here I was, in late 1985, coming to the end of my career in diplomacy and other spooky things, when our son, Jonathan, informed us that he could really go no farther in his business course unless he could have a computer. We told him to go out and research the market and let us know what would meet his needs.

He came back about a week later to tell us that there was no real option. The Macintosh was so far beyond the other systems that there was really no contest. This was a man that had already been working with DOS! He insisted that I go with him to try it out. And this was a man that could barely hunt and peck on a 1927 Underwood!

After no more than fifteen minutes on a Mac keyboard, I was writing a letter in MSWord 1.x, and doing all the basic things. So we popped for far more than would now buy an SE and an ImageWriter II.

Greed took over, and I began a collection of freeware, PD and expensive programs that I didn't understand, but wanted to play with. Then I was given some advising work at External Affairs that the Mac would make a lot more straightforward. Surprise! They supplied a Mac 512E and a printer, and I continued my learning with their software—MSWord 3.x, Excel, OverVue, MacProject, Ready Set Go, MacDraft... I even managed to create a passable replica of the departmental memo form, and my timeless contributions to knowledge on my MacStationery are scattered through the files of more than one Ministry.
But, more important, Jonathan and I found out about the NCMC and have scarcely missed a General meeting since early 1986.

After retirement, I took up consulting in my areas of expertise. The first stint saw me reclaim my Mac at External for a few months. Then I was awarded a contract in another shop, and I did something dumb. I didn't write a Mac into the terms. As a consequence, I struggled with DOS on an IBM (absit omen!) 286 clone for a couple of months until I was able to get it working more or less like a Mac, but with many, many bombs and quirks. (My colleague and I call the unspeakable machine the "Quirk Express." Every day we experience weird things, such as the random creation of page breaks, or the unexplained appearance and total persistence of strings of 3's in place of vertical lines. People say that the Mac has too many system errors. They haven't tried to go beyond the simplest word processing on a 286 or 386.

In the meantime, Jonathan has moved to a house of his own, and bought a Mac. We gave our son Jeremy and his new wife (a graphic artist) a Mac, printer and hard disk as a wedding present. They are both using it for profit.

The result of the last four years of playing and working on the Macintosh has turned me from an enthusiast into a proselytizer, and my friends run for cover when they see me coming at social occasions. An old friend bought a Mac this week just to shut me up, and even my long-suffering wife Trish has agreed to give the Mac a try. So I bought her a new Plus...

Now the Club Executive has decided I must shut up or put out, so I'm struggling with a new career as a bookkeeper (not a bookie, which would be more profitable) in an attempt to understand the Club accounts, and, with the rest of the Executive, ensure that the members are getting value for their membership fees. There are too few hours in the day again, and I thought I was headed for a tranquil and philosophic retirement...

Secretary — Sue Roseman

Susan Roseman, has been Secretary of NCMC since OCTOBER 1988. Professionally, she is a Primary School Teacher with the OBE. She enjoys desktop publishing and layout design and programming in Hypercard and Logo.

Sue's interest in computers started 9 years ago when she became interested in the Commodore Pet. She quickly advanced to the Apple II and bought her first Macintosh in 1984 shortly after it came out. Since then she has become a committed Mac user and has become familiar with a wide range of graphics and desktop publishing applications.

Within the last few years she has taught Computer Science to kindergarten - grade 8 students with a heavy emphasis on Turtle Logo and the integration of Commodore 64/128 software into all areas of the academic curriculum. She currently publishes the monthly school newsletter, *"QUEEN ELIZABETH TIMES"*, a monthly publication of Queen Elizabeth Public School.

In her spare time, she produces business cards, letterheads, logo designs, résumés, menus, wedding invitations, flyers etc. for a number of local printers and area residents. Presently she also prepares the monthly agenda for the National Capital Macintosh Users Group.

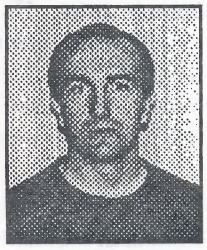
Public Domain Software Librarian — Branth W. Buckwell

Born in the early 50's in Edmonton Alberta (where men were men and sheep ran scared) Branth quickly had to make a career choice. He could stay in Edmonton and grow up to be a cowboy or move with his family to just about every province in Canada and foreign parts (his father was in the Canadian Forces so they moved - a lot). Deciding that he like three square meals a day (and judging from his spare tire he still does!!) Branth chose to "be part of the family" and spent the next 20 odd years of his life seeing Canada and the world.

Graduating from school Branth joined the Canadian Public Service to "work for a few months so I can have a few bucks to go to Europe". Twenty years later Branth is still "saving for the trip but now I'm going in style".

Meanwhile, to keep busy and when he is not playing on his Mac, Branth hangs his hat at the State Ceremonial Branch of the Department of the Secretary of State, where as Chief of Promotion and Research he gets to promote and research things.

Program Director — Capt John Moore



Born in Ottawa and raised in England Capt Moore is the NCMC Programming Director. As an airforce pilot he and his orginal Mac, a 512, and now an SE have travelled throughout Canada, Europe and the Middle East, both on the road and under canvas in tents. A member of the NCMC since 1987 he will be completing his term as MC in Nov.1989.

NCMC TCS SysOp — Phil Smy

Phil moved to Ottawa a couple of years ago. Previous to moving here he studied music and was the 'in house' composer for a community theatre in Petrolia, Ontario. Here he wrote music and acted in plays.

Phil initially became involved in the Mac as a tool for composing music, and since then has used the Mac extensively for that purpose.

Phil heads up his own small development and consulting firm, "PhySy Music & Development", that develops Music software and tutors clients in various uses for the Mac, from graphic design to database programming. Part time Phil is still a musician, author and actor.

Information Librarian — Scotty Adams

Scotty is one of our most the best known members of the NCMC Executive. She is the only charter member (she holds membership #2) still serving actively on the Executive. She is our Information Officer, Advertising Manager and does the actual paste-up on the Bulletin before it goes to press. She is also our resident 'Yank.' Born in Detroit, Michigan, Scotty holds dual citizenship, is married with three children and one grandchild.

Scotty helped build an electric binary counter in 1947. She has been acquainted with Apples since 1980, purchased an Apple II Plus in 1981, later on a IIe and a IIc and has owned Macintoshes, since their introduction, and she even owns stock in the company. She has taught introduction to computers to high school students as part of art course curriculum since 1982 and has done demonstrations and seminars at computer clubs, schools, professional development days, interest groups, "arts" events, computer camps, computer shows, etc. Scotty has been on the Executive of the Ottawa Home Computing Club since 1981, has served as Librarian and Vice-President and she is currently Officer-at-Large. In the recent past Scotty has co-produced and been featured on a local television program "THE WHOLE BIT" which was aired once live and re-run several times more each month on Channel 22.

Scotty's interests cross many boundaries and illustrate why Scotty is one of the most interesting people I have ever met. She

- holds an Instructor's rating from National Rifle Association (USA),
- holds current Firearms Acquisition Certificate,
- has Pyrotechnicians Licence from Energy Mines & Resources,
- has a Red Cross Senior Life saving Certificate and Water Safety Instructor rating,
- has held an International Auto Racing Licence and Sports Car Club of America racing licence (several trophies and bent car parts),
- has held Private Pilot's Licence (no bent parts),
- is a Master Gardener in Training, and
- has taught for over 30 years - mostly art but also nursery school, grade 5, high school, university level, adult education and seniors.

In addition to those interests her hobbies include Horticulture, Landscape Architecture, Photography, Public Speaking, Fine Arts and Crafts, Acting, Geology, Astronomy, Natural Sciences and she is a confirmed Infomaniac.

Public Domain Software Librarian 1990 — Abdallah Abi-Aad

Abdallah Abi-Aad joined Bell-Northern Research (BNR) in 1970 where he was involved in Electronic and Digital Switching Software system design until Dec/79. From Dec/79 to Dec/81 he worked with Philips in the Netherlands on the design of the Maintenance and the Man Machine Interface of a new Digital Switching System. In Dec/82 he left the Netherlands to go to South America:Brazil, where he worked at the Research and Development Labs of the Brazilian Goverment called: Telebras and located in Campinas, Sao Paulo. His first exposure to Apple microcomputer was in Campinas on an Apple II. His interest at that time was programming in Basic and Pascal. Abdallah left Brazil in June/84 to join Northern Telecom International Marketing in Mississauga until Feb/86 where he came back to BNR to work in the Software Verification of Northern Telecom Digital Switching Systems family known as DMS. After his return to Canada Abdallah kept his interest in Apple and bought an Apple IIc and used this latter for games, Pascal programming, data base applications until the beginning of 1987 where he heard about the National Capital Macintosh Club (NCMC). Abdallah joined the NCMC in 1987 and got involved in the Public Domain Library group as a screener of new PD software. In 1990, Abdallah will be a member of the Executive responsible for the PD Library and the PD Special Interest Group. His interest in Mac Applications Software is focused around Desktop Publishing.

Apple Liaison and SIG Coordinator — Beatrice (Biti) Beaubien

Beatrice (Biti) Beaubien was brought up in Montreal, hoped to be an architect, and studied Biochemistry in England. Her doctorate was conducted at Imperial College, London, and she completed her post doctoral training in the United States. She is an assistant professor at University of Ottawa, a Mac developer, and is interested in applying Macintosh-aided techniques to biochemistry instruction.

Personal favourites on the Mac include HyperCard, Excel, Graphics applications, and playing with programming. Wish list expertise extends to using virtual instrument interfaces (eg. LabVIEW) for everything from lab work to integrating sound files with telephone answering machines to designing search strategies on Oracle databases.

Her positions in the NCMC are Apple Liaison, and SIG Coordinator. Recent and ongoing duties include contributing to the formation of a Canadian Apple User Group on behalf of NCMC members, developing closer relations with Apple Canada on behalf of NCMC members, improving communication with SIG coordinators and designing sweatshirts. Biti has been elected to the position of Vice President for 1990, where she will be overseeing the production of the *Bulletin* as the Bulletin Coordinator.

Well, that about does it. The people who serve the membership dedicate a lot of personal time to make the National Capital Macintosh Club one of the best and most respected User Groups anywhere. You can be proud of their efforts. Over the next year we will need help. Your help. In 1990 we will need new people in the Executive, the MacBeach Party is coming up and we need **experienced** people to work in the design and layout production of the Bulletin. Let's make the club even better.

Cutting Edge: Desktop Video

by Kieth Eggel

Article is from "MacCountry News", the newsletter of the North Coast Mac Users Group, in Santa Rosa, California, May 1989. — ed.

As a technician and Mac Fanatic, I have put myself in a position to be at the cutting edge of Macintosh Technology. Today that means "Desktop Video," and I am currently evaluating a **MassMicro ColorSpace II** Board.

Desktop Video means using the Mac to combine text, graphics and animation with another video source, and saving the result to video tape. For instance you could easily add subtitles to a video, or create your own videotape combining real and animated characters, Products soon to be released claim they'll allow you to do video special effects just like you see on TV, but I haven't seen those yet. What I have seen is the *ColorSpace II* board from **MassMicro.** This board works on a Mac II, Mac IIx and I believe a Mac IIcx, and costs about $1,800.

The board is easy to install, just put it in the Mac, put the INIT in the system folder and install the two DA's into the system file. This board worked in two modes, Desktop Video and Video Digitizer, and both are controlled from desk accessories.

The desktop video mode allows you to completely control what shows up on the videotape: video source only; graphic only; graphic over video; video showing through graphic on particular color (video shows through graphic is blue for instance); faded graphic; faded video. This board is make to be used with programs like *VideoWorks II* or *Director* from **MacroMind.** Both programs are for making animation on the Mac and are the perfect software to use with this video presentation board. I found the Desktop Video DA itself very easy to use and since it is a DA you can use it from within your animation program. Now all I need is some artistic talent. Well, I'll have to work on that one because nothing I've recorded to date is good enough to be seen in public!

The video digitizer is like a full color scanner. Any video signal can be digitized and saved to the clipboard or as a file directly. Then you can open it in color from *Pixel Paint* or *Studio 8* and edit the file. In fact I can print it out in color on my HP PaintJet - but that's another story. Two limitations I find hard to deal with are:

1) It takes several seconds to digitize a color image, and
2) Still framing a VCR still does not work. It distorts the image even if it looks OK on the VCR monitor.

I was amazed at just how often a scene changes on TV. In those few seconds it took to digitize a screen I got partial pictures of three people and a background change! I did find that single stepping a laser disk allowed me to do an excellent job of digitizing pictures, but I don't have many movies that can single step so that is also a limitation. It seems that one definition for being on the "Cutting Edge" is that you are constantly discovering what can and what cannot be done. All in all I am completely blown away by what can be done for so little money. The basic hardware to do simple video production work can easily cost $50,000 if you approach the subject from the video industry side, so while the quality of Mac "Desktop Video" may be considered marginal by many professionals, it is being used to do "real" video production at a price that an individual can afford. The cost benefit is so great, in fact, that I expect to see many more "desktop video" products in the very near future, addressing small companies and the individuals need for training videos, sales videos and other types of videos that currently are not used due to cost of production. Mmmmm- how about video résumés?

SPECIAL NOTICE

Annual Christmas Sale

At the December 18 General Meeting our Annual Christmas Software/ Hardware Sale will take place. For sellers, it is the perfect opportunity sell-off your little used software and/or hardware. For buyers, it is a terrific opportunity to pick up some truly spectacular deals.

The rules for participating are very simple and straightforward:

1. Members of the National Capital Macintosh Club only.

2. Member dealers are invited to participate.

3. All software must be on original diskettes with original manuals.

4. The serviceability of hardware must be clearly and openly stated.

If any of the above mentioned conditions require further explanation, please contact Clifford Crabe at 592-0496 in the evening between 7 and 9 PM weekdays or 10 AM and 9 PM weekends.

Straight Talk About Viruses

from Thunder Enlightening Vol 6, No. 1

There are a lot of Mac users out there who are afraid of the dreaded virus and even more that are killing legitimate resources with incomplete virus cures. *Virex* is a good commercial program along with a new release from **Mainstay**. Here are a few questions taken down off of *FidoNet* and a few rules to follow. My apologies to any authors that I missed with sporadic downloading.

All purpose destructive code comes as a virus.
Wrong. Remember, "Trojan horse" is the general term for purposely destructive code. Very few Trojan horses are actually viruses.

All Trojan horses are bad.
Believe it or not, there are a few useful Trojan horse techniques in the world. A "side door" is any command not documented in the user manual, and it's a Trojan horse by definition. Some programmers install side doors to help them locate bugs in their programs. Sometimes a command may have such an obscure function that it makes sense not to document it.

Viruses and Trojan horses are a recent phenomenon.
Trojan horses have been around since the first days of the computer. Hackers toyed with versus in the early 1960s as a form of amusement. Many different Trojan horse techniques were developed over the years to embezzle money, destroy data, etc. The general public wasn't aware of this problem until the IBM PC revolution brought it into the spotlight. Just five years ago, banks were still covering up computerized embezzlements because they believed they'd lose too many customers.

Computer viruses are reaching epidemic proportions.
Wrong again. Viruses may be spread all over the planet but they aren't taking over the world. There are only about fifty or so known virus "strains" at this time and a few of them have been completely eliminated. Your chances of being infected are slim of you take proper precautions. (Yes, it's still safe to turn on your computer!)

Viruses could destroy all the files on my disks.
Yes, and a spilled cup of coffee will do the same thing. If you have adequate backup copies of your data, you will be able to recover from a virus/coffee attack. Backups mean the difference between a nuisance and a disaster.

Viruses have been documented on over 300,000 computers.
This statistic comes from John McAfee, a self-styled virus fighter who seems to come up with all the quotes the media love to hear. We assume it includes every floppy disk ever infected by a virus, as well as all of the computers participating in the Christmas worm attack. (That worm was designed for a particular IBM network software package; it never infected the computers. Therefore, it wasn't a virus. The Christmas worm attack can't be included in virus infection statistics.) Most of the media don't understand computer crimes, so they tend to call almost anything a virus.

Viruses can be hidden inside a data file.
Date files can't wreak havoc on your computer - only an executable program can do that. If a virus were to infect a data file, it would be a wasted effort.

BBSs and shareware programs spread viruses.
"The truth", says PC Magazine publisher Bill Machrone, "is that all major viruses to date were transmitted by commercial packages and private mail systems, often in universities." The Peace virus, for example, make its way into a commercial software product sold to thousands of customers. Machrone goes on to say that "bulletin boards and shareware authors work extraordinarily hard at policing themselves to keep viruses out." Many reputable sysops check all new files for Trojan horses; nationwide sysop networks help spread the work about dangerous files. You should be careful about software that comes from friends & BBSs, that's definitely true-but you must also be careful with the software you buy at computer stores. The Peace virus proves it.

My computer could be infected if I call an infected BBS.
BBSs can't write information on your disks - that's handled by the communications software you use. You can only transfer a dangerous file if you let your software do it. (In rare cases, a computer hooked into a network could be sent a dangerous file or directly infected, but it takes specialized software to connect a computer into a network, BBSs are NOT networks.)

My files are damaged, so it must have been a virus attack.
It could also have been caused by a power flux, or static electricity, or a fingerprint on a floppy disk, or a bug in your software, or perhaps a simple error on your part. Power failures and spilled cups of coffee have destroyed more data than all the viruses combined.

Viruses can spread to all sorts of computers.
All Trojan horses are limited to a family of computers, and this is especially true for viruses. A virus designed to spread on IBM PCs cannot infect a Commodore C64, nor can it infect an Apple Macintosh.

My backup disks will be destroyed if I back up a virus.
No, they won't. Let's suppose a virus does get backed up with your other files. Backups are just a form of data, and data con't harm your ststem. You can recover the important files from your backups without triggering the virus.

Anti-virus software will protect me from viruses.
Anti-virus packages offer some good front-line protection, but they can be tricky to use at times. You could make a crucial mistake in deciding whether to let a "flagged" event take place. Also, Trojan horses can be designed to take advantage of holes in your defense.

Copy-protected software is safe from an attack.
This is totally wrong. Copy-protected software is the most vulnerable software in a Trojan horse attack. You may have big problems trying to use or re-install such software, especially if the master disk was attacked. It should also be noted that copy–protection schemes rely on extremely tricky techniques which have occasionally "blown up" on users. Some people mistake only believe they were attacked by a clever virus.

We hope this dispels the myths surrounding the virus scare. Viruses **DO** exist, many of them will cause damage, and all of them can spread to other computers. But you can defend yourself from an attack if you deep a cool head and a set of backups.

The following guidelines can shield you from Trojan horses and viruses. They will lower your chances of being attacked and raise your chances of recovering from one.

1. Download files only from reputable BBSs where sysops check every program for Trojan horses. If you're still afraid, consider getting your programs from a BBS or "disk vendor" company which gets its programs directly from the author.

2. Let a newly uploaded file "mature" on a BBS for one or two weeks before you download it (others will put it through its paces).

3. Set up a procedure to regularly back up your files, and follow it religiously. Consider purchasing a user-friendly backup program that takes the drugery out of backing up your files.

4. Rotate between two sets of backups for better security (use set #1, then set #2, then Set #1...).

5. Consider using using a program which will create a unique "signature" of all the programs on your computer. Once in a while, you can run this program to determine if any of your applications have been modified - either by a virus or by a stray gamma ray.

6. If your computer starts acting weird, **DON'T PANIC.** It may be a virus, but then again it may not. Immediately reboot from a legitimate copy of your master disk. Write-protect that disk just to be safe. Do **NOT** run any programs on your regular disks (you might activate a Trojan horse). Of you don't have adequate backups, try to bring them up to date. Yes, you might be backing up a virus as well, but it can't hurt you as long as you don't run any of your normal programs. Set your backups off to the side. Only then can you safely hunt for the problem.

7. If you can't figure out what's wrong with your computer, and you aren't sure of yourself, just turn it off and call for help. Consider calling a local computer group before you hire an expert to fix your problem. If you need a professional, consider hiring a regular computer consultant before you call on a "virus expert."

8. If you can't figure out what's wrong with your computer, and you are sure of yourself, execute a low level format on all of your regular disks (you can learn how to do it from almost any BBS), than do a high-level format on each one of them. Next, carefully re-install your software from legitimate copies of the master disks, not from the backups. Then, carefully restore only the data files (not the executable program files!) from your backup disks.

From PD Library Disk—Paintings 03

Software: A Battle Over Trash Cans

by John Burgess, the Washington Post, extracted from Ottawa Home Computing Vol. 6 No. 1

In a San Francisco courthouse, three giants of the American computer industry are having it out over questions that, boiled down to their essentials, might be expressed as follows: is a waste basket fundamentally different from a trash can? And if it is, does it matter? From the questions could flow a ruling that will rechart the evolution of the software that runs the estimated 23 million IBM-compatible personal computers scattered across North America desktops, and indirectly, affect patterns of sales of the computers themselves. Pitting Apple Computer Inc. against Microsoft Corp, and Hewlett-Packard Co., the suit is testing to what extend a company can protect the "look and feel" of a computer program, an increasingly important concern as screen graphics grow more sophisticated in PC software, on which Americans 1st year spent almost $3 billion. It is one of several suits inching through U.S. courts to probe, with hair-splitting attention to detail, just how far companies can go in claiming rights to the programs they create.

"This is a very painful issue for the industry," notes Ronald Palenski, general counsel for the software trade group, Adapso. In the meantime, the industry is watching with the same fascination as opera addicts at a tube. To return to the question of the trash can and the waste basket: At he bottom right of the screen of the popular Macintosh PC made by Cupertino, Calif.-based Apple is a tiny image of a familiar household receptacle, labeled "trash." The Macintosh user who wants to eliminate an unwanted data file from the computer drags it across the screen to the can and performs the electronic equivalent of dropping it in.

At the bottom right of a screen displayed in a Hewlett-Packard New Wave program, which is a derivative of a Microsoft program called "Windows," there is a similar but not identical object, marked "waste basket." It, too, signifies the place where superfluous files can be given the heaveho. Apple claims that its competitors, by mimicking such features as the can, have effectively stolen the very core of what made their company's product so successful.

The trash can was one of many screen features that enchanted the computer world when the Mac was introduced in 1984. The can was part of what would become the industry's first mass-marketed "graphical user interface," a collection of whimsical images and symbols on the screen that the user pointed to electronically to operate the computer. It eliminated typed commands that were burdensome and, for many people, intimidating. Suddenly, here was a personal computer that was easy and fun to use. According to Apple attorney Jack E. Brown, "if Microsoft on anyone else wants to have the same success, they should do their own original work and not trade on Apple's work." The suit comes as Lotus Development Corp. of Cambridge, Mass., and Ashton-Tate Corp, of Torrence, Calif,, which along with Microsoft rank and the Big Three of the PC software industry, have initiated suit that could set precedent in other corners of the field

Lotus alleges that several companies have copied the keystroke command and various graphical images of its popular 1-2-3 spreadsheet program, which performs financial calculations. Ashton-Tate is trying to assert rights to a computer language it invented for the use in database. Despite its origins in the computer age, software as creative medium bears many similarities to novels, poetry, music and other traditional means of expression. It is produced primarily by individuals rather than groups, and cannot be automated; it is a means of recording ideas; handled by the right people, it can convey creative brilliance. Normally, such creativity has been protected by copyright, which by definition, deals with expressions of ideas, not ideas themselves.

Under copyright, for example, competing novelists might both write books whose underlying message is the same: that power corrupts the human spirit. Author A, whose book appears first and is read by B, cannot sue B for sounding the same themes. Generally speaking, if B has used substantially different character, plot, setting, etc., to make the point, there is no infringement. In a similar way, two software companies may write programs that perform the same task—alphabetizing material on a list, say. The "code," or lines of instruction that make up a program, is protected by copyright, just as the words of a novel are. They cannot be copied legally. But so long as A alphabetizes using a method that is substantially different from B's, there is no violation.

WHO WILL OWN THE TRASH CAN ?

This is, in fact, round two of a fight between two companies that grew from start-ups into multibillion-dollar operations partly because they co-operated with each other. Many analysts, in fact, credit Microsoft, which is based in Redmond, Wash., with pulling Apple back from financial disaster in the mid-1980's by rushing to write software for the Mac and thereby helping win market acceptance for the Apple computers. Without a settlement, the suit could drag on for years, lowering a shroud of uncertainty over the industry. Many companies may change their development strategy as a result, if they have not already. "People will be more careful and try to avoid the potential of a lawsuit by keeping away

...continued on page 15.

Where There's a Will. There's a MAC WAY !

Tips and Solutions...

by Kay Simpson, Graphics Artist

New software ... new hardware ... upgrades — with every solution arrives a new problem. Luckily a little ingenuity, networking with other Mac people and even – Heaven forbid! – a close scrutiny of the user manual can overcome most drawbacks. Here are a few discoveries my friends and I have made recently.

Problem: *The document was converted from IBM WordPerfect and to the Mac operator' s horror it turns out the original typist used spaces and default tabs to align text and even put in returns at the end of lines, simply because you can get away with sloppy work on a system that uses proportional type. Is there a quick way to delete all those surplus spaces, etc. so that the indents can be formatted properly?*

Solution: MS Word's Change... utility to the rescue – it can find spaces easily and a peak at the manual will show several codes that can be used to find tabs, carriage returns, etc. For example, suppose the original typist ended each line with a return and then used one tab and three spaces to align the text beneath:

```
..-...Example of poor formatting:¶
· ...Using spaces for¶
· ...hanging indents.¶
```

You can quickly reformat a series of such paragraphs by using Change.... Since you want to remove the carriage returns and two of the three spaces so that the text flows freely and won't go all over the place when the font or column width changes, you should enter "^p^t.." in the Find What: box, and nothing in the Change To: box. The ^p allows you to find and/or change to hard returns. The ^t finds and/or replaces with a tab. It might be a good idea not do a Change All since there may be some carriage returns you want to retain.

Problem: *It' s a pain to redistribute lines in PageMaker when the area they fill is modified ot become larger or smaller, or if more lines are added inside the same overall dimensions. Is there a way to avoid having to reset each line? Also, is there an easy way to get text to fall properly between the lines?*

Solution: If you enter your lines as text rather than using the line-drawing tool, you can facilitate line placement. Just use a tab with an underline leader for each line you need, plus a final return to make the last line appear. Adjust the distance between the lines by changing the leading. To add another line, just tab and return, then re-adjust the leading to fit the new number of lines into the space. Text can be entered into a new block of text and overlay the lines. If you use the same font, point size and leading as the lines, everything should line up perfectly. Thanks to Cheri Lynch of Bradson Design for this tip.

Problem: *When I' m using Quark XPress I often have trouble breaking the link between text boxes because my text box is behind another box and it won' t let me get at the end of the arrow.*

Solution: Drag the bottom of the text box up until it is no longer overlapped by the other box. The end of the arrow is now uncovered so that the link can be broken. Break the link. Drag the bottom of the text box back to its original location.

The Story Behind:
Canadian Customs Brokers

by Ned Soltz

One of my many goals in life (besides fame and fortune) is beating customs brokers. So, I have learned a few things about getting product into Canada.

1) UPS is the worst. Most product that comes into Canada from at least West of Toronto will enter via Windsor. UPS will charge you a minimum of $12 brokerage fee to pay what is usually less than $1.00 in FST.

2) Purolator is bad because they automatically will turn goods to a custom's broker, who will charge you a minimum $35 fee.

3) Federal Express will broker free on small shipments.

But if you get into the "Long Room" or over $900 range, you better maker certain that either all of that paperwork is right or spend the money for a broker to expedite things.

Several weeks ago, I cleared a shipment of just two pieces. The vendor indicated value at $200 US. Customs wanted to charge me FST based upon $200. I reminded the agent at Pearson (I needed the product in a hurry, so I drove out to Malton to pick it up rather than have Fed Ex clear it for me — the last product they cleared took 2 days). I had to remind the agent that software is only subject to 13.5% FST on the value of the media. I offered to pay him 13.5% of the value of 4 diskettes, but he didn't want to bother with the paperwork.

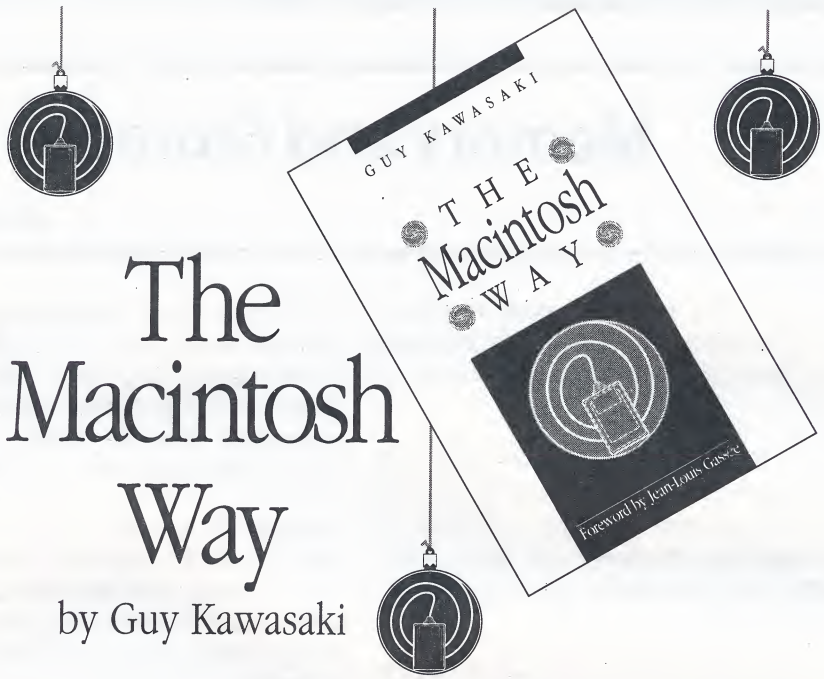
Your parcel should not have cost you $35 to clear.

Mail, by the way, is best. On small items where customs actually does flag the parcel, they will attach a bill. Simply mail it back, and if you disagree with their assessment (they tried the same thing by mail on yet another shipment which the vendor valued at my dealer cost rather than the value of the diskettes), I simply attached proof of why I wasn't giving them 13.5% of $500, but merely the value of the diskettes x 13.5%. And I enclosed a cheque (for something like $1.27, I think). Like everything else in Canadian circles, money talks.

There's your short course in how to negotiate the Short Room.

For the long room...well that's why I buy my product from the Canadian distributors and allow them to worry about Customs.

Advertising Manager's note: Although Guy is a cosmopolitan citizen of the world, he seems to forget that there are more than one North American currencies around these parts his book runs about $30.



The Macintosh Way

by Guy Kawasaki

Give the right gift.

Are you looking for the perfect Christmas gift for a Macintosh owner? Can't find a Macintosh portable[1] in stock? Hong Kong too far away? Countaches sold out at your Lamborghini dealer? Give The Macintosh Way. *It's the thought that counts.*

	The Macintosh Way	Macintosh Portable	Imitation Rolex President	Lamborghini Countach
Cost	$19.95	$5000.00	$25.00	$175,000.00
Availability	Local bookstore	Backordered	Hong Kong	Italy
Warranty	90 months	90 days	90 minutes	90 tickets
Competition	None	Toshiba	US Customs Dept.	Testarossa
Performance	0 to 220 pages, 2 hours	0 to Desktop, 30 seconds	NA	0-60mph, 4.7 seconds

Get the right gift.

Exercise: *Tear this ad out. Give it to your spouse, friend, or boss. See if you get* The Macintosh Way *for Christmas.*

	The Macintosh Way	Mousepad	Socks	Tie
Cost	$19.95	$10.00	$8.00	$40.00
Fulfilling	✔	-	-	-
Inspiring	✔	-	-	-
Entertaining	✔	-	-	-
Returnable	-	✔	✔	✔

Published by Scott, Foresman and Company.

1. A portable is a computer that is too big, too heavy, and too expensive to be a laptop. This is because French people have big laps and employee discounts.

Memory and Storage

by Doug Miles
Mug News Service, 1989
with permission from Doug Miles

Which do you need: more disk storage or more memory? For that matter, what's the difference? There's always some confusion over this, though it's usually a question of terminology.

Two recent converts to the Macintosh (SE's one with a 20 meg hard drive) comparing notes: "How much memory does yours have?" asks convert number 1. Number 2 replies, "I've got 20 megabytes in mine, what about you?" "Ooo-Eee! That's some machine you've got there; mine's only 2 megabytes." Poor guy!

But they are talking apples and oranges. The one SE has a 20 meg internal hard drive; that's storage. The other has SE has 2 megs of RAM; that's memory! Hard disks, floppy disks, WORM disks, Bernoulli cartridges, super-floppies and cassette tapes are all storage media, not part of the computer's memory.

When we're talking about computer memory, we're almost enevitably referring to RAM — Random Access Memory. RAM is solid state, all silicon chips; no moving parts. It's volatile needing electrical power to keep remembering; when the power is shut off, poof! The Mac runs on software kept in storage on a disk. To do anything, the software is read from the disk and copied into memory were it can operate. Some programs are "disk-based" and copy into memory only the parts they need at that moment. When the program needs to do something else (like move to another part of the document), it reads the necessary parts from storage into memory and then does what it is asked.

Same thing with document files: A new file exists only in RAM until it is saved (written to disk). Large files, such as spreadsheets or databases, are often disk-based like the program itself, so only the parts you're using at the moment are in memory. If the poer goes off (or you get a bomb and have to restart the Mac), the RAM is wiped clean as a whistle and everything you've done since you last saved to disk is gone. I've been repeatedly burned by this, losing lots of unsaved data, so I guess we have to learn the hard way, over and over. *Save often.*

Apple's introduction of a so-called CD–ROM player has added to the confusion. ROM means Read–Only Memory, and a Compact disk isn't memory any more than a floppy disk is. Maybe the compact laser disk should be called CD–ROS for Read-Only Storage. ROM is solid state silicon chips like RAM, only the contents are fixed, "burned" into it at the factory. The Mac's ROM has much of the operating system in it (to get Mac started, or booted, far enough to read something from the disk), and other routines for the programmers to "call" from their programs.

Peripheral devices like hard drives and monitors may have their own ROM. On other computers games and fonts may come on plug-in ROM cartridges. Laptop computers often have some software conveniently in ROM. ROM doesn't need power to keep it's memory, so in that respect it's more like storage. The waters are getting muddy.

Squinting through the murk, we scrutinize a RAM cache. A cache is a part of your RAM memory you can set aside for a temporary storage buffer between disk and memory — so it's memory being used somewhat like storage. For disk–based programs and documents, the periodic reading of various parts from a disk is necessarily limited by the speed of the mechanical disk. The caching program keeps frequently requested data and program code in the cache, where it is read much faster — RAM has no moving parts. When you save to disk that data is often written to the cache and held there for a while. If you have an unfortunate incident, like a power outage, what you thought was safely saved to disk may go poof. You can set up a cache with the Mac's Control Panel DA or with PowerDisk (now called TurboCache, from Peripheral Land).

A RAM disk seems like a contradiction in terms, yet it's descriptive. RAM disks come in two flavours, hardware and software. A hardware RAM disk is a box full of RAM chips you plug into your Mac, like and external disk drive. You can plug it into a power outlet so it can remember what you put in it. It acts like a small hard drive except that it's silent and very fast — no moving parts, right? Since RAM has gottem more expensive and hard drives cheaper, hardware RAM disks seem to have disappeared from the market.

Software RAM disks are mildly popular, but I think they'd be more widely used if better understood. Roger Bates' shareware RamDisk+ is probably the best of three currentRAM disk programs. The program's operation is like fencing off part of your Mac's memory; you tell it how much. No-tresspassing signs tell your applications that this

patch of memory is reserved for a special purpose and they will have to make do with what's left. The special purpose is to act like a tiny hard drive. Incredibly fast, of course. And volitile. Don't put working data files on a RAM disk unless you like to live dangerously, or at least save them frequently to a real disk.

There are three basic reasons to use a RAM disk. First you can set up a blank RAM disk to make it easier to live with only one floppy drive. Second, you can copy a slow-running disk–based program (like MacWrite) to the RAM disk for much faster operation. When you run RamDisk+ to set up the RAM disk, you can arrange to automatically copy certainfiles to it. Third, you can run your Mac entirely from a System folder on the RAM disk. Why do that? Maybe to insulate your physical disks from the effects of system crashes or viruses. Remember, that when you shut down, the RAM disk disappears without a trace along with any damage. When you set set up a RAM disk again, it get a fresh System.

So, does it all make more sence now, or is it as clear as mud? Just keep in mind that memory is inside your Mac, solid state silicon chips. Storage is on the disk. Except for the exceptions. If you want to run several programs under MultiFinder, have a hankering for RAM caches or RAM disks, you'll choose to get more memory. If you want all your programs and big data files and a huge clip art collection within instant reach you're in the market for more hard disk storage. I'll take both.

Trash Cans continued from page 11.

from the look and feel issue," said John Warnock, president of software developer Adobe Systems Inc. of Mountain View, Calif. Apple's critics worry that a broad finding in favor of the company could set back efforts toward creating a standard interface for the IBM compatible world. Users want a standard because it would reduce training cost (different programs would operate essentially in the same way) and facilitate software development. Windows is the closest thing to such a standard now. An Apple victory could also force changes in a new interface called Presentation Manager that is intended for the next wave of IBM-standard computers. Apple turns a deaf ear to these arguments. "The whole point of the copyright laws is to stimulate innovation and creativity," said its attorney, Jack Brown. Copyright and its enforcement gives companies confidence that their investment will be paid back to them. By preventing copying of existing works, other parties are forced to innovate. "If you impose standards too soon," he said, "not stimulating them (other developers) to make more creative endeavors, you're not advancing the art. Did Rembrandt forever freeze creativity in depicting certain scenes? Aren't we better off because Matisse took a different view?"

NW NORTHWEST DIGITAL

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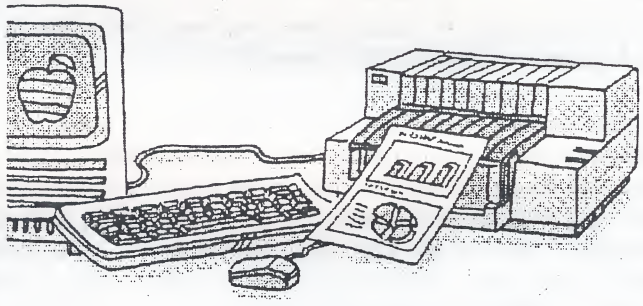

Until now, owning a Macintosh computer meant sharing an office printer if you wanted high-resolution output. But now with the HP DeskWriter printer, you can enjoy the convenience of a personal desktop printer - without sacrificing the appearance of your business documents.

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Virtual 030? A Virtual Breakthrough!

"...Imagine that the entire memory space of the computer has been moved from the RAM out to the hard disc."
by John W.E. Griffen

This article is from "CMAC Plus One" the newsletter of ClubMac issue August 1989.

Virtual—Is it something that should be at the top of everyone's ***Must Have Now!*** list, or an expensive gimmick that will fascinate for awhile, but in the end be ignored as being unessential in a high-end productivity environment? **Apple** has endorsed the virtual memory system as strategic for the future of Macintosh and has announced that it will be incorporated in future versions of the Macintosh System. However, if you feel that you cannot live without it and that you must have it now, here it is, brought to you through the efforts of **Connectix Corp.** of Menlo Park, California. Could it be that the pains taken by **Apple** to include virtual memory in its next System will fall short of the work already done at Connectix? Only the Shadow and John Scully know...but read on, here's an evaluation of the **Connectix** version!

Thanks to **Right Angle Technology** of Toronto, I was given this fairly expensive ($399), little (1O K before installation) INIT to play with for a few weeks so that I could share my observations with you. I have always been fascinated with INITs, as some members who use the Club Mac BBS know. I have spent considerable time testing commercial, public domain and shareware INITs to determine what they do to your Mac's performance and I hope to have an article on my findings to put in the CMAC+l RSN. As a way of explanation, an INIT is a file that you drop into your System Folder. It contains code that modifies or enhances the way the Macintosh System behaves. At a certain point in the boot process, the System looks in its folder for files of the Type INIT to pick up and read into the System heap. They can be something minor (such as *Façade*, which modifies disk icons) to major—*OnCue, QuickKeys* and *Virtual* are examples.

So, what is Virtual? The name refers to the term virtual memory, which this INIT is all about. Virtual memory is commonplace in such environments as mainframe and minicomputers, but, up until recently, it was unheard of in the Macintosh world. When you blow up a balloon to the rubber's stress limit, you experience something that is quite similar to what happens when your Mac's memory is stretched to the limit—the results can be messy and scary! Wouldn't it be nice to have an almost unlimited amount of RAM into which to load all the files and applications with which you want to work on that day, (or week!) even though you only have 2 Megabytes of installed RAM? Enter *Virtual.*

On boot up, it must be the first INIT to be picked up by the System. (It does this by virtue of having two spaces in front of the file name, lifting it, in ASCII terms, to the top of the list). As soon as this happens, Virtual forces the System into resetting its boot up procedure and recycling (this time with a happy Mac on the screen instead of your startup screen). On this time around, the Mac system is fooled into looking for RAM not in the installed SIMMs, but on the hard disk. For this purpose it grabs the first 8 Megabytes (to you that's 8,192 Kilobytes) of contiguous disk space that it finds and holds on to it until you erase the Virtual File from your disk. If you don't have 8 Megabytes of contiguous disk space, Virtual will let you know by displaying an icon at startup that shows its regular icon with a slash through it.

Connectix suggests that you get *DiskExpress* from AlSoft and use it to process your hard disk before installing *Virtual. DiskExpress* can insure that the free space on your disk is contiguous (doesn't contain fragments of various files); and if there is more than 8 Megabytes of it, you're in business.

Another requirement is that you have a Mac with a 68030 CPU (SE/30, llx, llcx or greater) or a Mac II with a PMMU chip (it just won't work on a 128, 512, Mac Plus or SE, or a Mac II without the PMMU). These requirements will also apply to the Macintosh System 7 (which in some circles is also referred to as the second coming).

(PMMU is the Paged Memory Management Unit. See Bulletin Volume 5 No. 3 "System 7.0 Overview" page 15.—ed.)

Many other suggestions are offered by Connectix for making your Mac in general, and Virtual in particular, run more smoothly.

First, the space allocated for the Finder (in the Get Info menu item) should be increased from 160K to at least 320K; 512K being the ideal. I found that the Finder seemed to run so much faster (with or without Virtual) at 512K and I have left it that way. The difference in speed in copying files and disks is remarkable!

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- It is wise to experiment with application allocation size (decreasing it if you never work with files that would threaten to fill up the space, and increasing if the opposite is true. Remember, the more allocation space is set, the more virtual memory access is needed).

- Turn off the RAM cache in the Control Panel.

- Always use the MultiFinder with *Virtual*—don't attempt it with Finder alone.
- Don't quit an application when you are finished with it if there is even a remote chance that you will use it again before shutting down (otherwise the virtual memory becomes fragmented— this is a problem in the present Macintosh System).
- Finally, if you are going to load *Excel*, load it in **first** (*Excel* grabs a particular location in memory and will not work if another application has grabbed it first).

Right off the top, I want to mention one of the best things about *Virtual*—the Manual! I am one of those who starts to read a manual with good intentions, then usually gives up and decides to learn by doing. The Manual only has 34 pages, yet it is so interesting and informative that I didn't want to put it down. It told me all I needed to know about the product, and then some. But it was told in such a way that I was entertained by clear, definitive writing (and the odd amusing aside), as well as being enlightened about the software and having my apprehensions about its use eased. This is the way all manuals should be written (are you listening, Microsoft?)

For purposes of this review, a Macintosh SE/30 with a 40 Megabyte Quantum drive and 5 Megabytes of RAM was used. Before *Virtual* was installed, there was nearly 13 Megabytes of contiguous free space on my drive. After installation, 8,192 Kilobytes was instantly expropriated. This resulted in space for loading and saving extra documents being a bit tight but manageable. I then launched the following applications: *SuperPaint 2.0, FileMaker II, Word 4. 0, More II, Quark Express 2. 0, Smartcom II 3.1*, and a text file editor DA called *McSink.*

With all of these loaded in (even with the expanded Finder) I still had about 2 Megabytes left over. So, for the fun of it I then launched *HyperCard* and Adobe *Illustrator 1.1.* with nearly 8 Megabytes of applications loaded in (a highly unlikely situation) the System started showing signs of stress and I experienced a crash or two. Also, my Finder startup file could not be read and had to be trashed before I could set any startup configurations. Thus I went to the original setup without *HyperCard* and *Illustrator* and went to work on various documents with nearly 2 Megabytes of overhead (a more likely and practical setup).

With this configuration, *Virtual* ran like a breeze. I could not tell the difference in speed when switching between applications under MultiFinder run from *Virtual* (disk-based RAM) and when doing the same procedures using installed RAM without *Virtual.* This incredible speed is mainly due to the speed of the Quantum hard drive; and perhaps in part by the extra 3 Megabytes of RAM (apparently extra RAM does make some difference in speed— although surprisingly little according to Connectix).

Using this configuration I tried hard to crash the System by switching back and forth between applications, opening and closing documents, Undoing/Redoing, Running DAs, etc. but nary a crash occurred. I did not even experience the *thrashing* that the manual warns about. (Thrashing is the activity by the Hard Disk that goes on for more than a minute or two without seeming to want to settle down; resulting in the inability to access the file you are working on.) Just for the record, I found that it took 70

seconds to boot the system from a cold start to the point where all the applications were loaded in—a remarkable performance indeed!

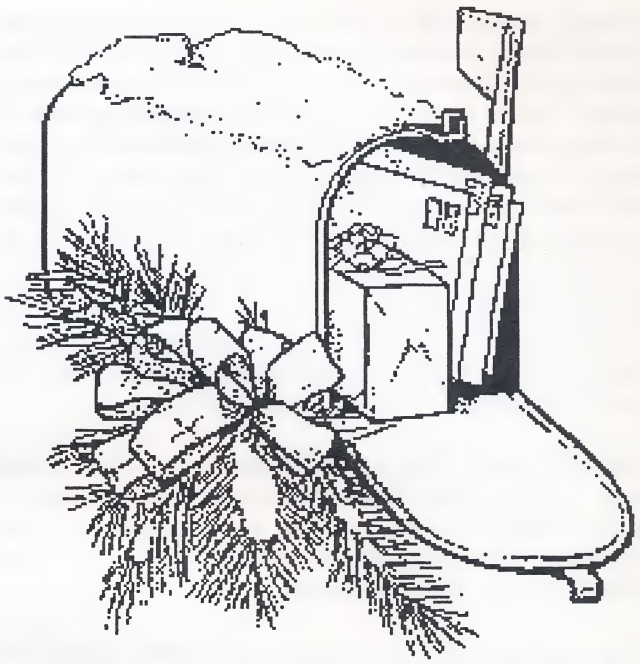
I was intending to open the case and remove 3 Megabytes of RAM and do all these tests again, but qualms of caution prevailed. According to the Connectix, the speed difference between a 2 and 5 Megabyte machine would be barely perceptible, it is disk speed that really makes the difference.

I should mention that all these tests were made with my System files unaltered. That means that all INITs were running (*On Cue, Quick Keys, SoundMaster, Thunder II, SuperClock!, Suitcase II, CPS Delete Tracking, CacheControl* and many others). Also, I run with an enlarged System Heap (expanded to 600K by Heap Fixer from CE) and have *HFS Navigator* installed in the PACK resources of the System. I did not determine whether the elimination of some or all of these resources would make a significant difference; the point being that *Virtual* seemed to run fine whatever was in my System Folder.

On the negative side, there are a few limits with which *Virtual* must contend—many of these deal with the Macintosh system as it now exists. 8 Megabytes is the limit of its capacity, because at present, that is all the RAM the Macintosh recognizes. But, what about less then 8? Connectix says No! What about sharing RAM between the installed SIMMs and the *Virtual* RAM. That way if you have lots of installed RAM you could free up some disk space if it is running a bit low (And when is it not running low?) Can't be done! In fact, there is no configuration of Virtual allowed.

It would be nice if it was in the form of CDEV (an INIT combined with a Control Panel device) so that you could tweak some of the settings in the Control Panel. It is also unfortunate that the present Macintosh System fragments RAM space when you quit an application under MultiFinder. This makes things very difficult or even impossible for *Virtual* if you try to launch another application when the available memory is all over the place in the diskbased RAM file.

Another problem that I see is in disk backup (of course we all do this regularly, don't we?) Because the *Virtual* INIT file has grown to over 8 Megabytes, it is very difficult for any backup program to deal with. Regular crashes during disk backup have been reported. This can be overcome by tossing the INIT file in the trash and restarting before backup, then placing a fresh copy of Virtual back in the System Folder when you are done. However, it would be so much more simple to have the INIT release the disk space each time the Mac shuts down. That way, when you decide to start up without *Virtual* (a simple procedure, by the way; you just hold down the escape key as you boot up), you have all your disk space available again.



This image can be found in the PD Library on the disk Paintings 08.

Virtual originally had its problems with many Control Panel devices with their fragile memory management. It also crashed frequently when other SCSI devices such as scanners and tape backups were used. Fortunately, with release 1.05 **Connectix** seems to have largely cleared these problems up. However, when in the Control Panel or using other SCSI devices, **Connectix** still advises caution. I can only vouch that I found no problems working in the Control Panel with *Virtual*.

Given the constricting limits of Macintosh System 6, 1 think **Connectix** has done remarkably well. It seems also that they are committed to improve the product (for instance, in future versions they promise to allow you to take the *Virtual* RAM file off the Boot Drive and place it on a second drive). I can see a definite use for *Virtual* in places where cost prohibits the installation of a full load of SIMMs (± $3,000 for 6 Meg SIMMs versus $399 for *Virtual*), but where there is increasing need for MultiFinder operation and the consecutive use of several applications. Personally, my needs are very modest—MultiFinder with *MacWrite II, Smartcom II* and *SuperPaint* and a few DAs thrown in are about it. (So why an SE/30 you ask? Because it's there, I reply).

In conclusion, I welcome this addition to the ever-burgeoning selection of utilities for the Macintosh. With the never ending search for the ideal mix of power and speed in computer operation, I think *Virtual* will find a definite place in many software libraries. When the advent of System Seven (Hallelujah!) with its built-in virtual memory system comes about, it may or may not still have a place there. Time and experience will, as always, be the judge.

Is Mac Shareware Dead?

by Geoff Gaherty

This is extracted from CMAC Plus One August, 1989, the newsletter of ClubMAC — ed

As part of my duties as Mac disk librarian, I log onto CompuServe and/or GEnie once a month to capture descriptions of the latest software uploaded there. I scan these in order to decide what seems interesting enough for me to download to put together new disks for the library.

I've been doing this pretty regularly since I first got my Mac five years ago. Over the years I ve seen some pretty exciting stuff: utilities like Red Ryder, FEdit, StuffIt; fonts like Boston, Beverly Hills, and Clairvaux; desk accessories and startup files like MockPackage, DiskTop, and SuperClock; and games like Canfield, 1000 Miles, and Seahaven Towers.

Lately, things seem to have become less exciting. The utilities are mostly things like upgrade number 23.1A, fixing a tiny bug reported by one person in Dubuque who found it wouldn't work on a LaserWriter NTX running from a 128K Mac. The games are mostly things generated by WorldBuilder or yet another golf course for Mean 18 or whatever. There are hardly any new fonts, bit-mapped or laser, and no new graphics other than the R-Rated variety. Regarding the latter, I can't quite see why anyone would want to spend a fortune in online charges to download a fuzzy scan of something you can pick up on any newsstand (even in Toronto!) A large part of the apathy on the part of developers is probably a result of the massive non-compliance with requests for shareware payments; very few shareware developers get more than a handful of payments for their work. When did YOU last send in a cheque?

I began to think I was getting jaded, but then I opened the July MacUser to discover a quotation from Dan Shafer specifically referring to HyperCard stackware on the commercial networks: "MacNET dropped its HyperCard-only forum back to a subset of the Mac forum. Upload rate [on CompuServe] is way, way down. It sure seems like the bloom is off the HyperCard rose, at least for the moment." But the problem is not just with stackware: this month there was not one single new program or graphic for the Mac II, not a single one!

That's the supply side of the equation...what about demand? Disk sales from the LOGIC Mac library have dropped off alarmingly over the past year. In the early days when software consisted of MacWrite, MacPaint, and Multiplan, people were starving for software and would buy just about anything...take a look at some of the early Mac library disks! Now most users have sophisticated commercial packages which do most of what they want efficiently; why buy shareware? Yet there are many utilities, fonts, and add-ons which greatly enhance the usefulness of the commercial products. For example, only recently have a few Mac word processors given you automatic "real" curly quotation marks rather than straight "typewriter" quotation marks (look closely at the quotation marks in this sentence to see what I mean). Yet I have a startup file called Quote Init in my system file which lets me turn them off and on at will in every program I own.

I suspect that the virus scares have also done major damage to the image of public domain software, despite the fact that not one virus has ever appeared in the 300 plus disks which LOGIC has produced. Actually most viruses seem to have been spread through beta test and demo (or pirated versions of commercial software), rather than through public domain and shareware sources .

Whatever the causes, sales of our library disks have diminished to the point where they are failing to cover the costs of downloading their contents, so that LOGIC's directors are seriously considering discontinuing our library. This would be a tragedy for me, since I find PD/ shareware to be the spice of the Mac software feast. Word, Excel, and PageMaker are great, but they don't put a clock on my menu bar or let me have fun playing solitaire !

What can YOU do? Well, I've mentioned a bunch of really great programs in this article... How about trying one or two of them out yourself?

National Capital Macintosh Club

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Second Tuesday of each month.

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or
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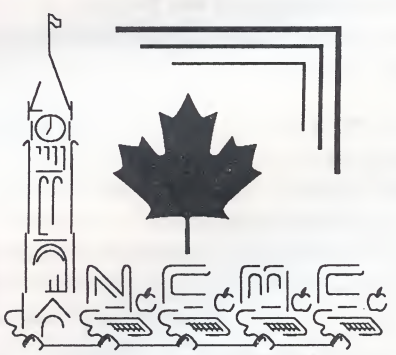

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"SmartForm Designer is, well, smart!"

Extracted from "Apples B.C. News" October 1989 the newsletter of Apples B.C. Computer Society.

Story by Andy Kenmuir

Claris has produced a software package entitled *"SmartForm Designer"* with an accompanying package entitled *"SmartForm Assistant."* The packages are aptly titled. They were designed specifically to design and use forms.

When I was looking for a computerized forms design package, I was quite disappointed that everybody kept talking "Desktop Publishing" (DTP) and offered all sorts of software for DTP. I was not interested in DTP—I was interested in designing forms on a computer. When we finally got our Mac, I heard about this new upcoming software package so as soon as it was available I purchased it. Up to that point we had spent about 8 months designing forms using *MacDraw II* and *PageMaker*.

The *SmartForm Designer* software arrived about 3 pm one afternoon just as my Forms Designer had finished a form using *PageMaker*. It had taken about half a day and 132k of storage space. Basically, the form has a 3 inch column plus 8 half inch columns and lines every 1/6 inch from top to bottom. The 3 inch column has a number of items listed in it, but the others are blank except for the column headings. That night, I took the *SmartForm Designer* book home to read on the bus.

The next day I gave another form to my Forms Designer to do. It was almost the same as the one referred to above. When she asked if she could copy the form she had done in *PageMaker* and just make the necessary changes, I said, "No! This new package has a tutorial. Run through it, then do this form using the new software. I don't need the form till noon."

By 11 AM she had completed the tutorial which covered most of the applications of the package. In about 20 minutes she had completed the form using *SmartForm Designer* and only 17k of storage space.

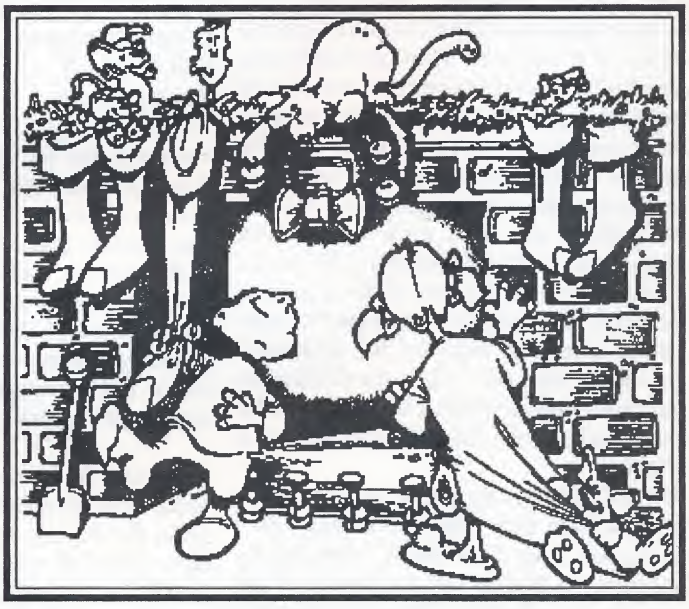
What makes *SmartForm Designer* so fast? Duplication. To design the form above, we draw one box 3 pica wide and 1 pica deep using the 'SpecBox' then we 'Super Duplicate' it. To super duplicate, you tell the computer how many boxes you want across the form and how far apart. Hit return and your boxes are there. Then select all those boxes, tell the computer how many boxes you want down and how far apart. Hit return and Voila, and there are you boxes in less time than it takes to explain how to do it. To line up items, such as boxes, you select the items, pull down the 'Arrange 'menu, select 'Align Objects,' then tell the computer how you want them aligned.

Usually I place my first object exactly where I want it then, place the other objects a bit offset from where they should be, then align everything to the first object. Column headings can be aligned to centre themselves in the space.

When typing words in *SmartForm Designer*, you first make an invisible box and type the word in the box. Then using the pull down menu 'Text' select 'Align Text'. You can align the text: Horizontally either left, right, centre or justify; vertically either top, bottom or centre. This allows all your column headings to be centred in the space whether they have one or two lines of type. SmartForm will also sequentially number your forms for you.

Users can use *SmartForm Assistant* to fill in the forms rather than using hard copies. *SmartForm Designer* can set up fields to receive certain data. Once a form is designed it must be transferred to *SmartForm Assistant* to use this feature. We use it for Certificates, Name Tags Table Cards, and whatever.

Once the template is set up, *SmartForm Assistant* remembers font, style, size, position, etc. *SmartForm Designer* is (as its name implies) SMART.



This image can be found in the PD Library on the Clip Art disk Paintings 03.

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Smart Art — in search of a better bitmap

Smart Art
by Ed Hall and Randy Adams
version 1.01 March/89
Emerald City Software
Requires: PostScript printer
Extracted from Apples B.C. News ~ October 1989

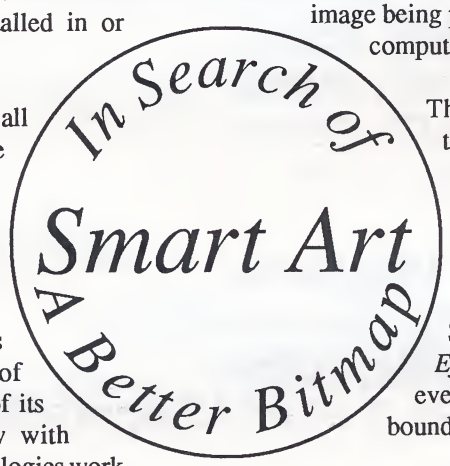
By Steve St-Laurent

The screen representation of fonts on the Mac, most users know, depends on the sizes of screen fonts installed in or otherwise mounted on the System file.

Short of building huge system files with all possible sizes of each font used, we have come to accept jagged screen representations of faces. We assure ourselves that what we see is only a ghost of what we'll get on final printout to a PostScript printer.

Of course, all this will change with Apple's release of its outline font technology as part of System 7.0. And **Adobe Systems'** release of its *Font Manager* offers similar results now with **Adobe's** wide range of typefaces. Both technologies work from font outlines which are scaled and tweaked to improve both the screen display and printed output to all devices, not just PostScript ones.

One area in which screen representation has been especially poor is with text embodied in Encapsulated PostScript artwork - the kind generated by *Illustrator* and *Freehand* to name two. In the case of the former, the screen display was deliberately altered by Adobe to protect its PostScript font information.



EPSF art with text in it has a lousy screen appearance most of the time. Now there's a workaround.

The screen representation in an EPSF file is simply a bitmap PICT stored in the file's resource fork. If that bitmap is improved, so is the screen display.

Smart Art is a nifty desk accessory that does just that. Its secret is that it uses the PostScript interpreter in a laser printer to create a better bitmap. The obvious catch is that you need a PostScript printer for *Smart Art* to work.

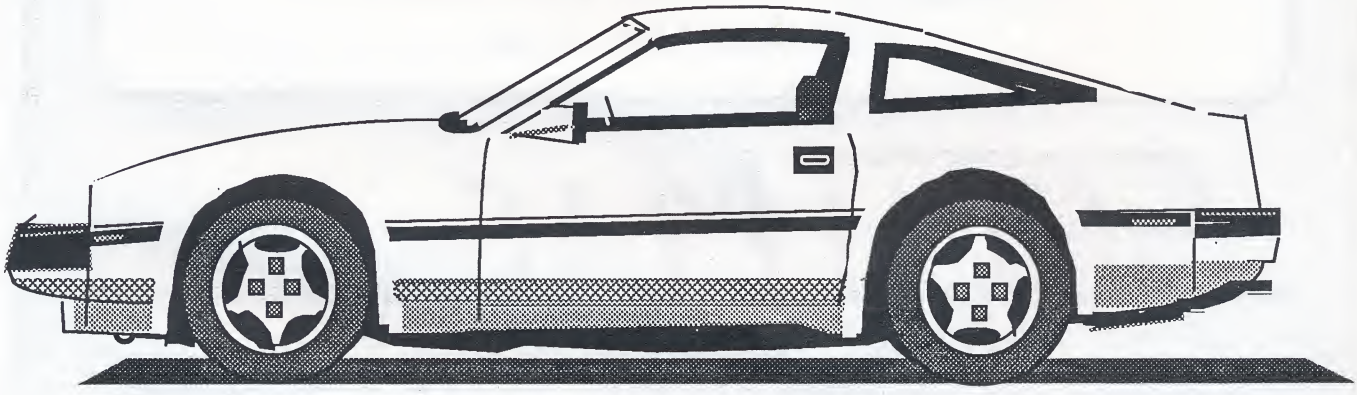
How does it work? The file is sent to the printer, but instead of the image being printed, the information is sent back to the computer as a sharper bitmap.

There is a second catch. Downloadable typefaces - those not resident in ROM on the printer - must be downloaded before reimaging the artwork withSmartArt. If you don't the result will be a beautifully mapped Courier disaster.

Shipped with *Smart Art* is "*Vol. I Special Effects*" - 15 or so special type effects, everything from simple rotated type to type bound to the shape of a circle.

I found the special effects to be of limited value. The letter–spacing is sometimes god-awful.

Still, the package is eminently useful for those many Mac users who have a PostScript printer handy, and are eager to have what's on screen match as closely as possible the final output.



This is a 300ZX, it is a MacDraw originated image. You can find this image and many more in the Public Domain Library on the disk 'Paintings 07.'

Microsoft Works 2.0

Getting Started on your new Macintosh

Extracted from "Maple Orchard" Vol. 9 No. 4, the newsletter of the LOGIC Apple Users Group of Toronto.

by Kenneth Cohen

Suppose that (as I recently did) you have just purchased a Macintosh SE (20 meg internal hard drive, 1 megabyte of RAM) and you're wondering which basic business oriented programs to purchase. Chances are that you might consider buying some or all of the following, for a total outlay of $972.00 US:

Word processing:	
Word 4.0	$255.00
Database:	
Filemaker II	$237.00
Spreadsheet:	
Excel	$255.00
Communications:	
Microphone II	$225.00

(Quoted prices are from MacWarehouse, a popular American mail order company in US dollars, from a recent issue of MacUser magazine.)

When you buy all of these programs, you are buying a high degree of specialization. They include extensive capabilities which go far beyond what many users will ever need or want. If you are a professional writer, you may well require many of the features of a specialized word processor. If your office requires remarkably flexible record keeping capabilities, a specialized database will likely be a need. But if you have a few basic uses for each program your money will be largely wasted on features you will rarely if ever use. You may in fact forget that many of those features even exist.

Microsoft Works is a popular Macintosh program of long standing. Version 2.0 was released last fall. It provided a dramatically less expensive alternative to the purchase of several expensive specialized programs, for a price as low as $189.00US (from the same source as mentioned above). This program combines a word processor, database, spreadsheet, telecommunications, charting and drawing. It includes elementary macro capability and a spell–checking dictionary. Like *AppleWorks* for the Apple II, you can buy add-on programs for it (from companies called Working Software Inc. and Lundeen & Associates). And its modules are integrated: information generated with any module can be combined with information generated by the others very easily, so that the program can be used for desktop publishing, form letters, and detailed reports.

Works requires a **Macintosh Plus, SE** or **II**, with at least two 3.5 inch 800K disk drives, and System version 6.0 (or higher). Like most good programs, Works begs to be run from a hard drive, and it should be. Like all business software published by intelligent people, it's not copy protcctcd. From a hard drive, it boots very quickly and is up and running in seconds.

The most useful modules are the database and spreadsheet. The database is limited to 60 fields per record and 250 characters per field. The spreadsheet size is 256 columns by 16,382 rows, limited of course by available memory, with formulae limited to 200 characters. The numbers of records per file in the database, and filled cells per spreadsheet, is limited only by available memory. The spreadsheet is especially comprehensive for a program of this kind. It includes more than 60 math, statistical, trigonometric, logical, financial, date, time and special purpose functions. Most fundamental spreadsheet features are available, though I would have liked to have hidden cells included. Formatting capabilities are extensive, and include various date and time formatting features, bold, underlining and bordering. Cell notes is a useful feature for documenting formulae. Recalculation is done quickly because the program apparently knows which data have been changed and acts accordingly. Thc spreadsheet also includes a useful Chart menu, with a number of different functions available under that heading.

The database appears to be a modified version of the spreadsheet. and includes a lot of the spreadsheet's flexibility. Computed database fields will use most of the spreadsheet's functions and all of its formatting features. Database formulae can include field names, operators, functions and numbers. Fields can easily be renamed, added and deleted. Data can be arranged in lists or forms, the appearance of the forms and arrangement of the lists being flexible. List windows, like spreadsheet windows, can be divided into up to four panes, and scrolled separately. Sorting is also comprehensive. with many available selection rules, "and" and "or" connectors for multiple linking of selection rules. Reporting capabilities, to my inexperienced eye, appear to be basic but useful.

The program's word processor is a subset of *Microsoft Word*, and a limited one at that. I use this function more than any other, and there are several features I would like to have which are probably only available in a few expensive programs, such as the ability to renumber numbered paragraphs, the ability to do simple arithmetic, and the ability to highlight changes to a document. All of the most common editing, formatting, and search capabilities are available, along with a 60,000 word spell-checking dictionary. The program's tabbing capabilities include left, right, centre and decimal tabbing a big improvement over what I was accustomed to using previously. You can search and replace tabs and return characters. Six-lines-per-inch line spacing is available, which makes preprinted forms easier to work with.

Spelling-checking is adequate but has some problems. It appears to consume large quantities of memory. Checking a newly typed 20-page contract with my 1 megabyte Mac SE, for example, is almost a sure way to provoke problems related to memory

limitation. If you want to make serious use of the spell-checking facility, I recommend at least 2 megabytes of memory. In addition, you may find that the dictionary is not very large. Although individual words can of course be added to the dictionary easily, you may want to buy a more comprehensive dictionary for the program, of which several (including specialized items such as a medical dictionary and Black's Law Dictionary) are available. Finally, as with other spell-checking programs I've seen, the "suggested spellings" are usually bizarre. You can rely on the program to identify your typing and spelling mistakes, but don't rely on it to correct them.

Memory limitation problems also crop up copying large selections between modules. For example, you may have two word processing documents, and want to copy fifteen pages from one to the other. This can be done, if you have sufficient memory available in your system. If the program begins to warn you about a shortage of memory, the solutions are either to copy smaller selections at one time, or to buy more memory.

The telecommunications module lacks the macro capability which every decent communications program since *ASCII Express Pro* has had. Incoming text is written to the screen at a rate that appears slower than 1200 baud, though my modem is receiving that data at 2400 baud. VT-52 and VT-100 terminal emulation are available. With some fundamental improvements, this module could be useful, but as it stands, don't count on using it for very long.

The program's macro capability is a slight disappointment to a former AppleWorks user. The macro menu is essentially restricted to "recording macros", in other words, to recording key strokes and mouse movements. There is no built-in macro programming language—repetitive and some complex tasks cannot be done by the program's macro recording capability. However, the macro recording ability is very useful for such matters as typing "Yours very truly, Jim's Genuine Jeep Parts Inc., per Jim Jones" at the end of correspondence (though there are much better ways to accomplish this). *[Author's Note: **Do not** try to substitute Apple's MacroMaker for the Macro editor in Works. It is extremely hostile to Works, and will crash the system.]*

Works 2.0 also includes drawing capability, which appears to have been included so that the program could perform elementary desktop publishing tasks. Drawing is available in the word processor and spreadsheet. It can be used, among other things, to draw boxes or circles around text, create logos orpictures using elementary drafting tools, and prepare charts. Using the Macintosh Scrapbook, drawings can be imported from other graphics programs and used in *Works* documents.

Works has the ability to import a number of different kinds of non–*Works* word processing files, including files created by *Microsoft Word* and *MacWrite*, and all ASCII text files (including SYLK files). Rich Text Format (RTF) files can also be imported.

A number of different database and spreadsheet files can also be imported. And all *AppleWorks* files can be imported using Apple *File Exchange* and a Microsoft-supplied file called *Works–Works Transporter*, which I used successfully to convert several spreadsheets and word processor files.

A feature called "Make Works Desktop" lets you save existing *Works* desktops (as many as you like, under different names for different tasks) without quitting the program.

There is a major bug in *Works 2.0*, but don't despair, help is on the way, so I'm told. Saving word processor files frequently seems to cause the system to crash (fortunately the crashes always occur after your file is saved, so there is no data loss). I have recently been told that a free upgrade is available to remedy this.

The *Works 2.0* manuals include a detailed reference manual, a tutorial manual, and a quick reference chart. They are well illustrated and easy to understand, and are thoroughly indexed. They are simply the best software manuals I've yet seen.

In summary, *Works 2.0* is a generally well-polished, professional product which, for many users, will provide a complete set of easy–to–use software tools.

You know it is going to be one of those days when...

- ➡ you remember why it's so important to make backups as the hard disk slams out the side of your Mac into the next office.
- ➡ you start moving you coffee cup around the desk instead of the mouse and your productivity increases.
- ➡ you go for a cup of coffee and see your position advertised on the office notice board.
- ➡ you've spent the last three hours putting down some of your best and most creative and insiteful thoughts into your favourite word processor. The program crashes and you notice with horror the name of your document is still "Untitled."
- ➡ the junior reformats all the hard drives in the office because he heard that's a good thing to do every now and then, but he did not know you have to backup first.
- ➡ you've bought 26 copies of a word processor package and the distributor goes broke, selling the bulk of his stock at 96% off the regular price.
- ➡ the junk fax-mail network gets finally gets your number.
- ➡ the budget-priced accounting package you installed six months ago has written cheques to the installer six times before you realise it.
- ➡ Computerworld launches a new weekly computer paper and you get 87 copies each addressed to the 87 people who work in you DP department but there is only you and the contractor.

NCMC December 1989 Meetings

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	**Desktop Publishing** Up & Running West 7:30 PM 4	**Hypercard & Programming** Up & Running West 7:30 PM 5	**Executive Meeting** 7:00 PM 6	7	8	9
10	**Business** Up & Running West 7:30 PM 11	**Public Domain** Computer Connection 7:00 PM 12	**CAD/CAM** Up & Running West 7:30 PM 13	14	15	16
17	**General Meeting** Sir Robert Borden 7:00 PD Sales 7:30 Start 18	**Music & Midi** Lasercomp Solutions 7:30 PM 19	20	21	22	Hanukah 23
Christmas Eve 24	**Christmas Day** 25	Boxing Day 26	27	28	29	30
New Year's Eve 31						

NCMC January 1990 Meetings

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Happy New Year 1	**Desktop Publishing** Up & Running West 7:30 PM 2	**Hypercard & Programming** Up & Running West 7:30 PM 3	**Executive Meeting** 7:00 PM 4	5	6
7	8	**Public Domain** Computer Connection 7:00 PM 9	**CAD/CAM** Up & Running West 7:30 PM 10	11	12	13
14	**Business** Up & Running West 7:30 PM 15	**Music & Midi** Lasercomp Solutions 7:30 P.M. 16	17	18	19	20
21	**General Meeting** Sir Robert Borden 7:00 PD Sales 7:30 Start 22	23	24	**Green Macintosh** Lasercomp Solutions 7:30 PM 25	26	27
28	29	30	31			

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Training,Diskettes
Mouse Pads, Software
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Gift Certificates, Training
Macs, Games, Books, Mugs
Mac Bags, Key Chains, Diskettes
Mouse Cleaner, Mouse Pads,Mugs
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